

# ● PRINTER RUSH ●

(PTO ASSISTANCE)

Application : <u>10/718373</u>	Examiner : <u>EVANS</u>	GAU : <u>2652</u>
From: <u>IF</u>	Location: <u>IDC</u> FMF FDC	Date: <u>1-12-06</u>
Tracking #: <u>EPM-</u> <u>10/718373</u>		Week Date: <u>10-9-00</u>

DOC CODE	DOC DATE	MISCELLANEOUS
<input type="checkbox"/> 1449	_____	<input type="checkbox"/> Continuing Data
<input type="checkbox"/> IDS	_____	<input type="checkbox"/> Foreign Priority
<input type="checkbox"/> CLM	_____	<input type="checkbox"/> Document Legibility
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<input type="checkbox"/> SRFW	_____	<input type="checkbox"/> Other
<input type="checkbox"/> DRW	_____	
<input type="checkbox"/> OATH	_____	
<input type="checkbox"/> 312	_____	
<input checked="" type="checkbox"/> SPEC	<u>11-20-03</u>	

[RUSH] MESSAGE: PLEASE SUPPLY SERIAL  
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1, LINES 2 & 3 OF THE SPEC.

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 REV 10/04




## SELF-ALIGNMENT SCHEME FOR ENHANCEMENT OF CPP-GMR

by

Jei Wei Chang, Chao-Peng Chen, Min Li, Kochan Ju

### RELATED PATENT APPLICATION

 This application is related to Docket No. HTIRC02-003, Serial No. 10/392,118, filing date 3/19/03 and to Docket No. HTIRC02-004, Serial No. ~~107/8373~~ <sup>107/8373</sup>, filing date ~~11/20/2003~~ <sup>11/20/2003</sup>, all assigned to the same assignee as the current invention.

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

This invention relates generally to the fabrication of giant magnetoresistive (GMR) magnetic field sensors of a "current-perpendicular-to-the-plane" (CPP) configuration. More particularly, it relates to such a sensor that is geometrically patterned, using a single electron beam formed mask and a self-aligned double lift-off scheme, to lower its resistance and redistribute its current in a manner that increases sensor sensitivity and eliminates local hot-spots caused by excessive Joule heating.

#### 2. Description of the Related Art